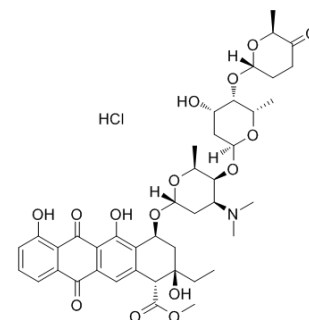


## Aclacinomycin A hydrochloride

Cat. No.:	HY-N2306A
CAS No.:	75443-99-1
Molecular Formula:	C <sub>42</sub> H <sub>54</sub> ClNO <sub>15</sub>
Molecular Weight:	848.33
Target:	Proteasome; Topoisomerase
Pathway:	Metabolic Enzyme/Protease; Cell Cycle/DNA Damage
Storage:	4°C, protect from light



### Solvent & Solubility

#### In Vitro

DMSO : ≥ 125 mg/mL (147.35 mM)

\* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	1.1788 mL	5.8939 mL	11.7879 mL
	5 mM	0.2358 mL	1.1788 mL	2.3576 mL
	10 mM	0.1179 mL	0.5894 mL	1.1788 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: **10% DMSO >> 90% (20% SBE-β-CD in saline)**  
Solubility: ≥ 2.08 mg/mL (2.45 mM); Clear solution
- Add each solvent one by one: **10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline**  
Solubility: ≥ 2.08 mg/mL (2.45 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Aclacinomycin A hydrochloride (Aclarubicin hydrochloride), a fluorescent molecule and the first described non-peptidic inhibitor showing discrete specificity for the CTRL (chymotrypsin-like) activity of the **20S proteasome**<sup>[1]</sup>. Aclacinomycin A hydrochloride is also a dual inhibitor of **topoisomerase I and II**<sup>[2]</sup>. An effective anthracycline chemotherapeutic agent for hematologic cancers and solid tumors<sup>[3]</sup>.

#### IC<sub>50</sub> & Target

20S proteasome<sup>[1]</sup>.  
Topoisomerase I and II<sup>[2]</sup>.

### REFERENCES

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- [1]. Isoe T, et al. Inhibition of different steps of the ubiquitin system by CDDP and aclarubicin. *Biochim Biophys Acta*. 1992 Sep 15;1117(2):131-5.
- [2]. Hajji N, et al. Induction of genotoxic and cytotoxic damage by aclarubicin, a dual topoisomerase inhibitor. *Mutat Res*. 2005 May 2;583(1):26-35.
- [3]. Iihoshi H, et al. Aclarubicin, an anthracycline anti-cancer drug, fluorescently contrasts mitochondria and reduces the oxygen consumption rate in living human cells. *Toxicol Lett*. 2017 Aug 5;277:109-114.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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